REMARKS

In the *Advisory* Office Action of November 16, 2007, the Examiner has rejected claims 1-21. By the present amendment, applicant has amended independent claims 1, 8 and 15. After the present amendment, claims 1-21 remain pending in the present application. Reconsideration and allowance of outstanding claims 1-21 in view of the above amendments and following remarks are requested.

A. Rejection of Claims 1-21 under 35 USC § 102(b)

The Examiner has rejected claims 1-21 of the present application for lacking novelty under 35 USC § 102(b), as being anticipated by Veltman (US Patent No. 5,481,543) ("Veltman"). For the reasons stated below, applicant respectfully disagrees.

In response to applicant's explanation in response to the final Office Action, in the outstanding Advisory Action, the Examiner repeats his arguments in the final Office Action, as follows:

Continuation of 11. does NOT place the application in condition for allowance because The 101 rejection with be withdrawn since the claims are changed to comply with current standards. However, the rejection based on Veltman is maintained since applicant's remarks are deemed to be unpersuasive. Regarding the first two paragraphs on page 10 and last full paragraph on page 11 of applicant's remarks, applicant states that Veltman fails to disclose "selecting, for said picture, a number of bits, wherein the time-equivalent of said number of bits is no greater than a difference based on said pre-decoder buffer removal time of said picture and an initial arrival time of said picture into a pre-decoder buffer". The examiner respectfully disagrees. Veltman's figure 22B discloses the time at which the first picture enters the pre-decoder buffer 42 is at time t1 The time at which the second picture enters the pre-decoder buffer 42 is at time t2 The time at which the third picture exits the pre decoder buffer 42 at time t3. And the time at which the fourth picture exits the pre decoder buffer 42 at time t4. Element 52 is where the time stamps of the pictures are kept track is element 52 of figure 21, then processed in element 55 for executing the decoding of pictures at video decoder 45, wherein the video input buffer size and video bit rate are used to affect the video input buffer size section '359 to select the number of bits for each picture in a sequence of pictures, as disclosed in Veltman. So, since each of the times t1, t2, t3 and t4 is different from another. In other words, the times t1 ≠ t2 ≠ t3 ≠ t4 is true, and because of the aforementioned inequalities, there are time gap differences, like the time differences t2-t1, t3-t2, t4-t3, etc., for processing multiple pictures in a chronological manner based on schedule or time processing arrangement scheme or schedule dependent on the encoder and the corresponding time stamps assigned to each picture in a group of pictures. Veltman teaches the arrival schedule with gaps based on removal time differences. Thus, Veltman discloses selecting, for said picture, a number of bits, wherein the time-equivalent of said number of bits is no greater than a difference based on said pre-decoder buffer removal time of said picture and an

To further clarify the invention of independent claim 1, applicant has amended independent claim 1 to recite "assigning, by said encoder, a pre-decoder buffer removal time to said picture; constraining, by said encoder, an initial arrival time of said picture into said pre-

decoder buffer by selecting, for said picture, a number of bits, wherein the time-equivalent of said number of bits is no greater than a difference based on said pre-decoder buffer removal time of said picture and said initial arrival time of said picture into a pre-decoder buffer; compressing, by said encoder, said picture to generate said number of bits; transmitting, by said encoder, said picture to said pre-decoder buffer in compliance with said initial arrival time."

Applicant respectfully submits that the "gap" that the Examiner is relying upon is the decoder processing gap or the gap in the processing times at the decoder, which is the gap between the decoding times of different pictures. However, claim 1 of the present application is an "encoding" claim, which is performed by an encoder. Therefore, the Examiner's observation with respect to the decoder processing gap, even if true, cannot be translated into arrival time gaps that are constrained by the encoder. It is respectfully submitted that Veltman does not disclose, teach or suggest "constraining, by said encoder, an initial arrival time of said picture into said pre-decoder buffer by selecting, for said picture, a number of bits, wherein the time-equivalent of said number of bits is no greater than a difference based on said pre-decoder buffer removal time of said picture and said initial arrival time of said picture into a pre-decoder buffer."

Applicant respectfully submits that Veltman clearly states that it uses a "System Target Decoder" that operates in exact accordance with the MPEG-2 standard, as explained at col. 21, lines 32-42, of Veltman:

> The system target decoder 4 includes a reference video decoder, a reference audio decoder, and their respective input buffers. In addition, the system target decoder includes a directory decoder and an input buffer for the directory decoder. The size of the audio input buffer, the size of the video input buffer, and the operation of the audio and video decoders are defined by the MPEG standards. In addition, the invention defines the size

<u>of the directory buffer and the operation of the directory decoder to make them compatible with the sizes of the other buffers and the operation of the other decoders defined by the MPEG standard.</u> (emphasis added.)

Therefore, as confirmed by its above-recited disclosure, Veltman does not teach any different video input buffer arrival time gap than that of the MPEG-2 standard, since Veltman's system target decoder (incorporating elements 42, 55, and the like) behaves according to the MPEG-2 standard.

It is respectfully submitted that the rules defining the MPEG-2 standard arrival time do not provide for arrival time gaps that are based on removal time differences. According to the MPEG-2 standard, the arrival times of compressed pictures are determined by the size of all the previous compressed pictures and the *program_mux_rate*, which is defined in the recurring pack header, and allowed to change over time. According to the MPEG-2 standard, data enters pre-the decoder buffer continuously at the *program_mux_rate*, with no gaps in arrival time, and the *program_mux_rate* must be adjusted by the encoder to prevent overflow and underflow at the continuous arrival rate, even in variable bit rate operation.

In contrast to the MPEG-2 standard (which Veltman follows), claim 1 of the present application, for example, limits the arrival time of the second (and any subsequent) picture based on a difference in removal times of the first two pictures. It is kindly submitted that this arrival schedule with gaps based on removal time differences is a key aspect of the present invention, which is not disclosed, taught or suggested by the MPEG-2 standard (which Veltman follows).

One practical advantage of the invention of claim 1 is that the gap based on removal times enables the hypothetical model to be like a real encoder, which can only emit compressed bits for a picture after the picture has been captured and encoded. This happens if the HRD

removal time mirrors the capture time (with a suitable delay), and that can be arranged at the discretion of the encoder.

If the Examiner disagrees with applicant's assertions that (1) Veltman uses a "System Target Decoder" that operates in exact accordance with the MPEG-2 standard, and/or that (2) System Target Decoder of the MPEG-2 standard operates differently from what has been described above by applicant, applicant respectfully invites the Examiner to clearly state his position with respect to these two assertions.
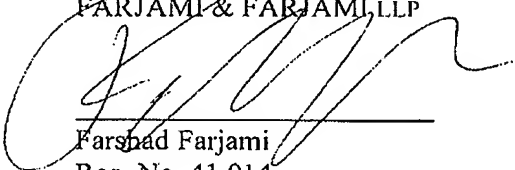
Accordingly, applicant respectfully submits that claim 1, and its dependent claims 2-7, are patentably distinguishable over Veltman. Further, independent claims 8 and 15 include limitations similar to those of claim 1. Therefore, claims 8 and 15, and their respective dependent claims 9-14 and 16-21, are also patentably distinguishable over Veltman.

B.   Conclusion

For all the foregoing reasons, an early Notice of Allowance directed to claims 1-21 is

respectfully requested.

Respectfully Submitted,
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